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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,760

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EXAMINER

SZEWCZYK, CYNTHIA

ART UNIT

PAPER NUMBER

1791

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,760	Applicant(s) BOGDAHN ET AL.	
	Examiner CYNTHIA SZEWCZYK	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/6/06, 1/8/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the initial office action for BOGDAHN et al. application no. 10/581,760 filed June 5, 2006.
2. Claims 1-24 are currently pending and have been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by YAMAMURA et al. (US 6,742,363 B1).

YAMAMURA et al. teaches an apparatus for straightening a glass rod. YAMAMURA et al. discloses that the apparatus contains a heating furnace (col. 7, lines 1-2) (heating zone of instant claim 12). Figure 5 shows that the glass body is vertically heated as in instant claim 12. YAMAMURA et al. discloses that the apparatus contains a sensing apparatus (col. 9, line 56 – col. 10, line 16) capable of sensing a radial position, a measuring apparatus (col. 9, line 56 – col. 10, line 16) capable of measuring an actual state, a microprocessor device (i.e.

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the position control unit (158); see col. 10, lines 6-16) and a displacement apparatus (col. 10, lines 6-16).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1, 10, 11, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over YAMAMURA et al. (US 6,742,363 B1).

YAMAMURA et al. teaches a method and apparatus for straightening a glass rod. YAMAMURA et al. discloses that a glass cylinder is fed into the heating zone (col. 2, lines 37-38) (continuous feeding of instant claims 1 and 20). Passing the glass body through the furnace would cause zonewise heating as in instant claim 1. YAMAMURA et al. discloses that the glass body is then passed through a drawing apparatus (col. 6, lines 17-18) as in instant claims 1 and 20. It

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would have been obvious to cut the glass strand after drawing as in instant claims 1 and 20 in order to produce a finished product. YAMAMURA et al. discloses that the apparatus contains a sensing apparatus (col. 9, lines 60-61) capable of measuring an actual state, means to determine a deviation (col. 10, lines 6-8), means to calculate a corrected position (col. 10, lines 9-11) and a position control unit to reposition the glass body by controlling the rotation speed of the roller (col. 10, lines 13-16) as in instant claims 1 and 20. Figure 5 shows that the glass body is vertically heated as in instant claims 1 and 20.

YAMAMURA et al. discloses that the repositioning of the glass cylinder to a corrected position is performed by a position control unit (col. 10, line 13) (controlled transportation of instant claim 10).

It would have been obvious that any material used during testing of the apparatus would be considered test material as in instant claim 11.

It would have been obvious to repeat the position control as in instant claim 21 because YAMAMURA et al. discloses that the shapes of the elongation rollers changes with time which may result in deformation of the glass (col. 10, lines 27-35).

YAMAMURA et al. discloses that the position control unit reduces the deviation to zero (col. 10, lines 9-12) which indicates that the position control unit considers any deviation to be a value indicative of lopsidedness as in instant claim 22. Therefore, the claimed invention would have been obvious.

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8. Claims 2-6, 7-9, 13-18, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over YAMAMURA et al. (US 6,742,363 B1) as applied to claims 1, 6, 10, 11, and 20-22 above, and further in view of BOGDAHN et al. (US 6,098,428).

YAMAMURA et al. teaches a method and apparatus for straightening a glass rod. YAMAMURA et al. discloses that the apparatus uses a diameter measuring device (col. 9, lines 56-59). YAMAMURA et al. is silent as to whether a laser beam measuring device is capable of producing an optical image.

BOGDAHN et al. teaches a process for drawing glass fiber using prediction of future geometric parameters. BOGDAHN et al. teaches that measurements of outside diameter and wall thickness are made optical instruments, which obviously would be able to produce optical images, or video cameras (col. 9, lines 1-6) as in instant claims 2, 13, 14, and 24. It would have been obvious to use the diameter measuring instruments suggested by BOGDAHN et al. because BOGDAHN et al. discloses that they are well known in the art (col. 9, lines 5-6).

BOGDAHN et al. discloses that the method disclosed is capable for use with tubes (col. 1, line 23) as in instant claim 3. It would have been obvious that YAMAMURA et al. would be capable for use with tubes as well because both teach control systems wherein diameter sensors are used to control the drawing rate.

It would have been obvious to measure the wall thickness as in instant claims 4 and 7 because BOGDAHN et al. discloses that it is necessary to control

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wall thickness and outside diameter in order to achieve increased dimensional accuracy (col. 7, lines 32-41).

YAMAMURA et al. discloses that the preferred outer diameter is 30-80 mm, which overlaps with the range of instant claim 5.

YAMAMURA et al. discloses that rod is rotated (col. 9, lines 24-25), which would result in distribution measurements being taken about the circumference of the glass as in instant claim 6.

It would have been obvious that if numerous pieces of the glass strand were run through the apparatus, measurements would be taken on all of the pieces as in instant claim 7.

YAMAMURA et al. discloses that the position correction unit determines a correction factor (col. 10, lines 9-10) as in instant claim 8. It would have been obvious that one of ordinary skill in the art could achieve the claimed correction factor with YAMAMURA et al. due to the amount of deviation measured.

BOGDAHN et al. discloses that it is most effective to have multiple measuring devices (col. 9, lines 7-9) as in instant claims 9, 14, 15, 16, and 23. BOGDAHN et al. discloses that multiple measuring sites ensure dimensional accuracy by determining whether the glass is still undergoing deformation (col. 9, lines 11-13). It would have been obvious to include multiple measuring devices in YAMAMURA et al. to ensure dimensional accuracy.

YAMAMURA et al. is silent as to the exact location of the measuring device. BOGDAHN et al. discloses that it is advantageous to install one of the

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measuring devices near the heating device (col. 9, lines 19-12) as in instant claim 13 because it simplifies the adjustment of the measuring device.

Figure 13 of YAMAMURA et al. discloses that the diameter measuring device is arranged perpendicular to the longitudinal axis as in instant claims 14 and 15.

It would have been obvious to one of ordinary skill in the art that the measuring devices could be rotated around the glass as in instant claim 17 because doing so would provide the position correction unit with values from around the glass and provide a more accurate determination of any deformation.

BOGDAHN et al. discloses that the glass may be quartz (col. 9, line 67). YAMAMURA et al. and BOGDAHN et al. both teach the production of optical fibers and YAMAMURA et al. does not limit the glass available for use in the process (col. 1, line 13) therefore it would have been obvious that the process and apparatus of YAMAMURA et al. would be capable of using quartz glass as in instant claim 18.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over YAMAMURA et al. (US 6,742,363 B1) in view of BOGDAHN et al. (US 6,098,428) as applied to claims 1-11, 13-18, and 20-24 above, and further in view of YOKOKAWA et al. (US 5,785,729).

YAMAURA et al. as modified by BOGDAHN et al. discloses a process and apparatus for straightening a glass rod. Modified YAMAMURA et al. fails to teach the diameter range of instant claim 19.

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YOKOKAWA et al. teaches that it is well known that conventional quartz tubes for optical fibers have an outer diameter of 15-20 mm (col. 2, lines 25-27), which would overlap with the range of instant claim 19. It would have been obvious that the tube of modified YAMAMURA et al. would be capable of the diameter range disclosed by YOKOKAWA et al. because modified YAMAMURA et al. teaches a quartz tube for optical fibers. Therefore, the claimed invention would have been obvious.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CYNTHIA SZEWCZYK whose telephone number is (571)270-5130. The examiner can normally be reached on Monday through Thursday 7:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art
Unit 1791

CS